

Air Force Civil Engineer Center



**FORMER
WILLIAMS AIR FORCE BASE
Site ST012
Former Liquid Fuel
Storage Area**

**BCT Conference Call
19 July 2018**



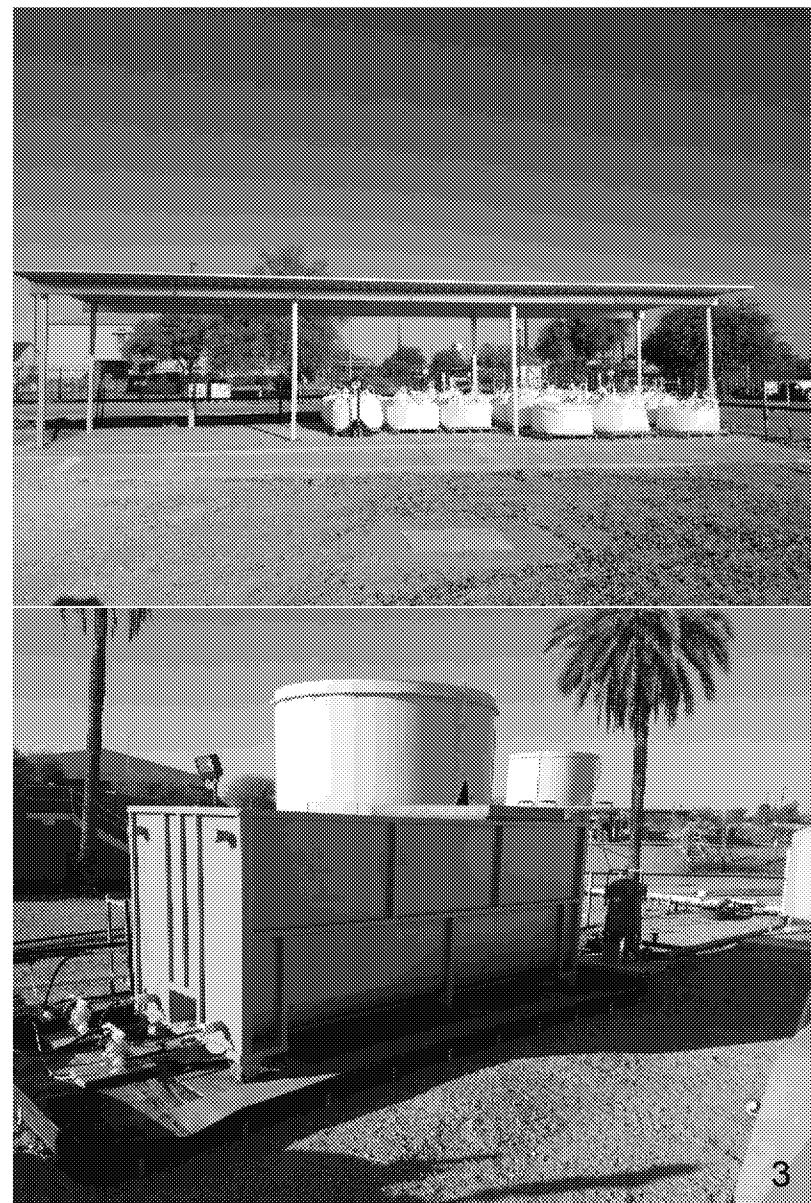
Site ST012 Outline

- Summary of activities since Jun BCT call
- Update on JP-4 degradation based on methane at SVE system
- LNAPL monitoring/removal update
- Benzene Characterization Update
- Path forward



Site ST012 Activities Since June

- Continued SVE operation
- Continued LNAPL screening in accessible wells
- Received ladder/platform for pre-mix tank
- Operation of Extraction and Treatment
 - Pneumatic pumps installed in UWBZ21, UWBZ22
 - Submersible pump installed in CZ07
 - Troubleshooting Pumps in UWBZ26, UWBZ27, and UWBZ30 (not pumping beginning week of 7/9/18)



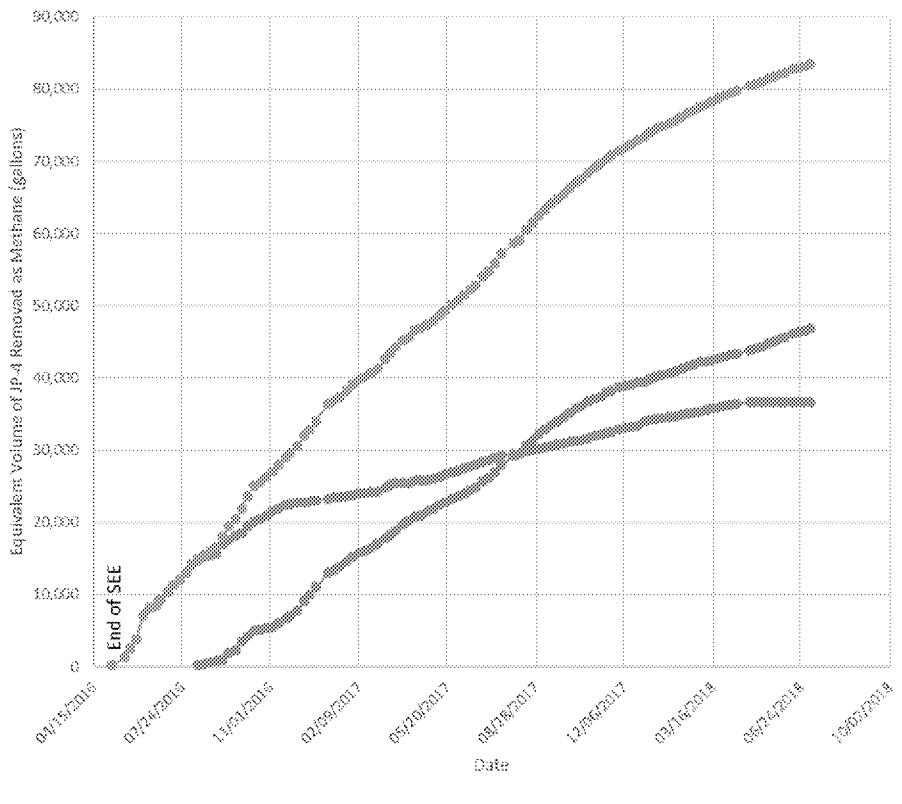


JP-4 Degradation Based on Methane Removed with SVE (through 5 Jul)

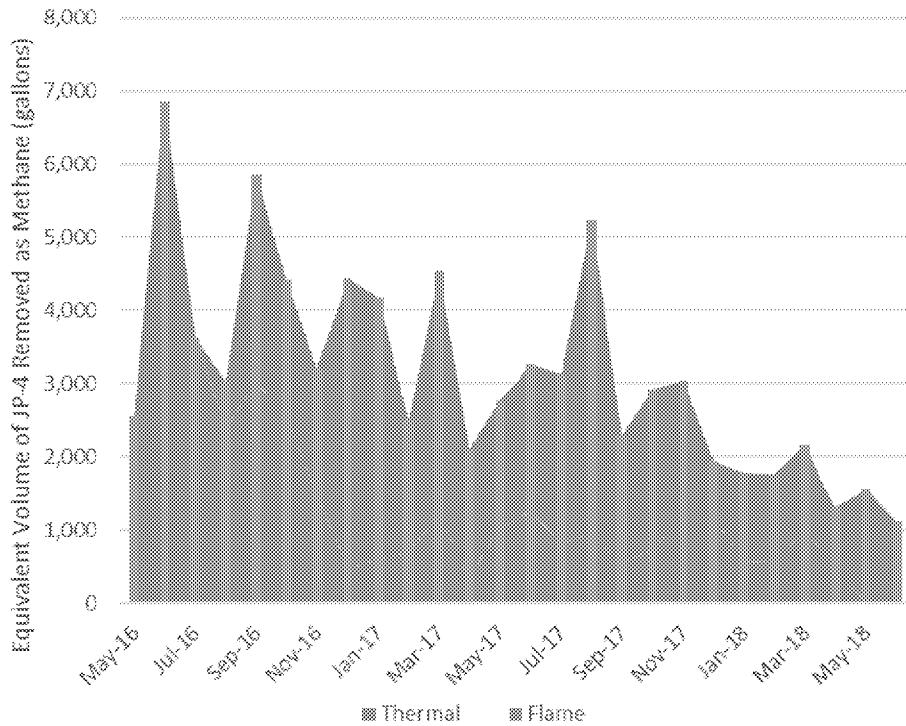


Site ST012 SVE System Equivalent JP-4 Degradation Based on Methane Removed

Equivalent JP4 Degraded based on Methane Extracted by SVE System



Equivalent JP-4 Degraded
(based on methane extracted by SVE system by month*)

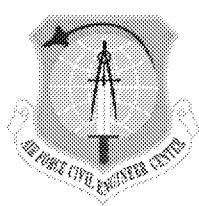


*timing of JP-4 degradation may not correspond with timing of methane extraction

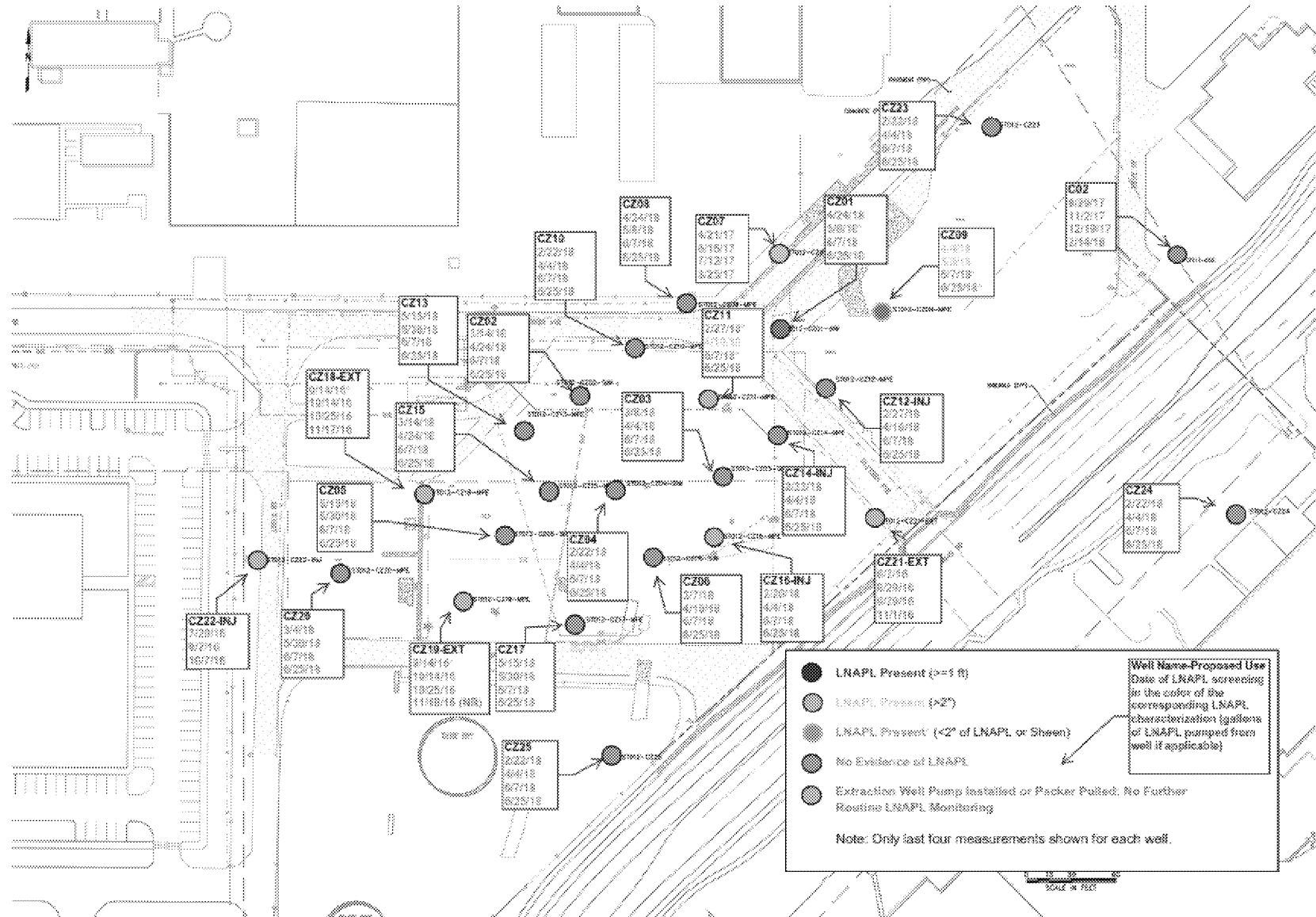
- Estimates through 5 Jul 2018.
- Estimated JP-4 degradation as methane is in addition to JP-4 removal reported for SVE
- Thermal oxidizer changed from SVE to groundwater treatment end of Apr



LNAPL Monitoring Update (through 29 Jun)



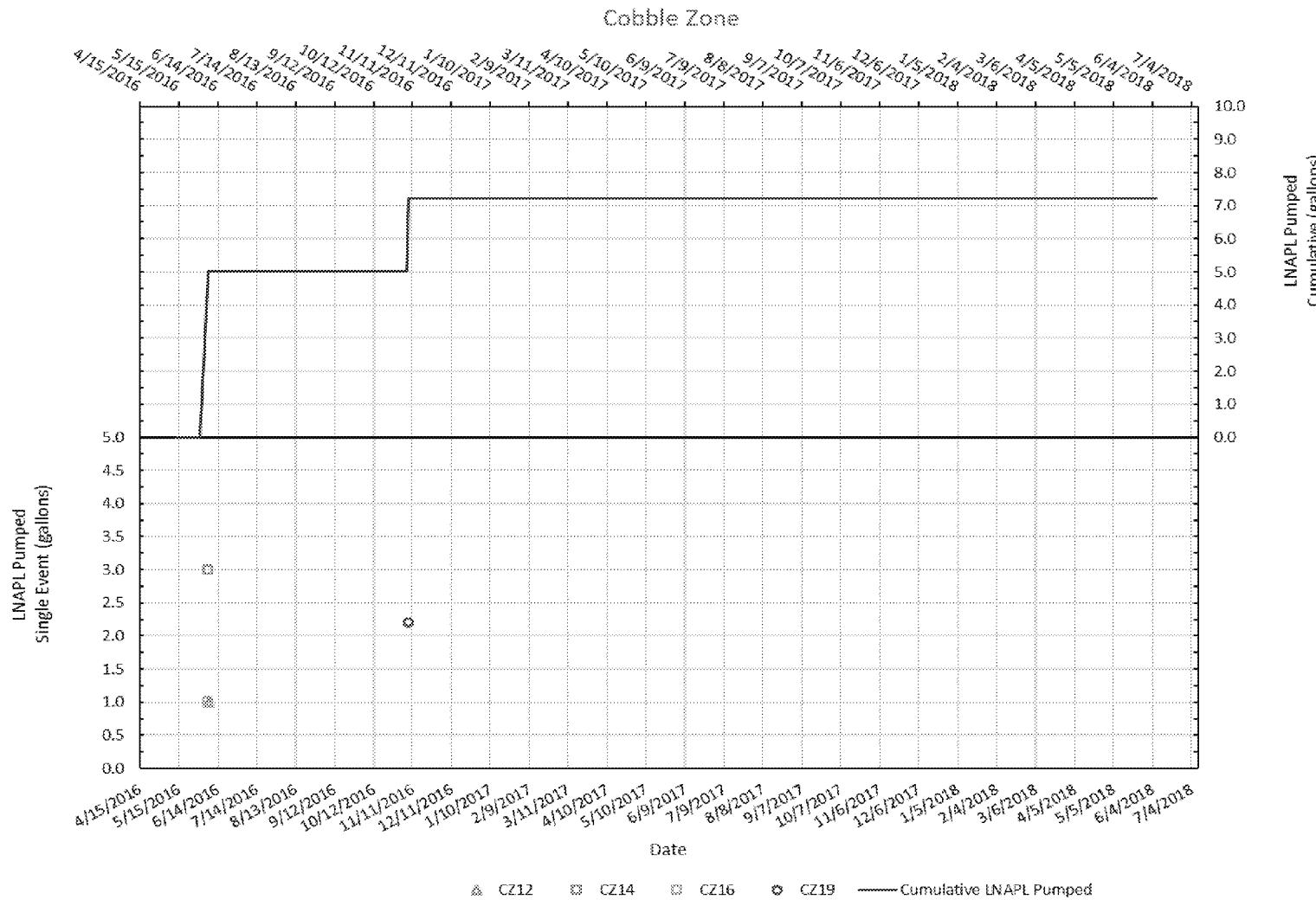
LNAPL Monitoring/Removal Status Cobble Zone

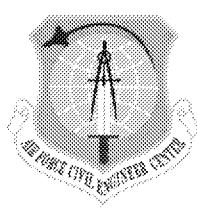




LNAPL Monitoring/Removal Status

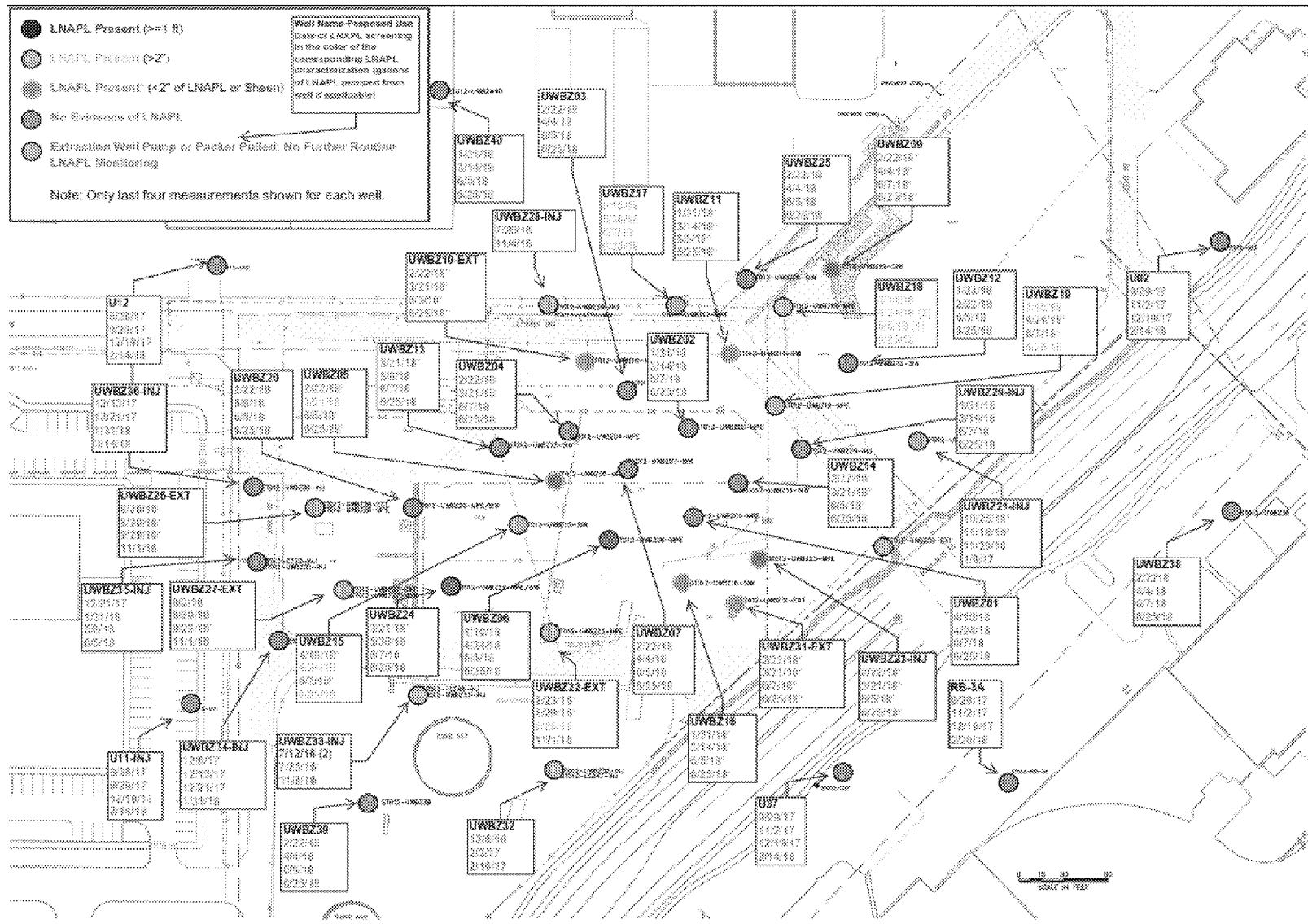
Cobble Zone





LNAPL Monitoring/Removal Status

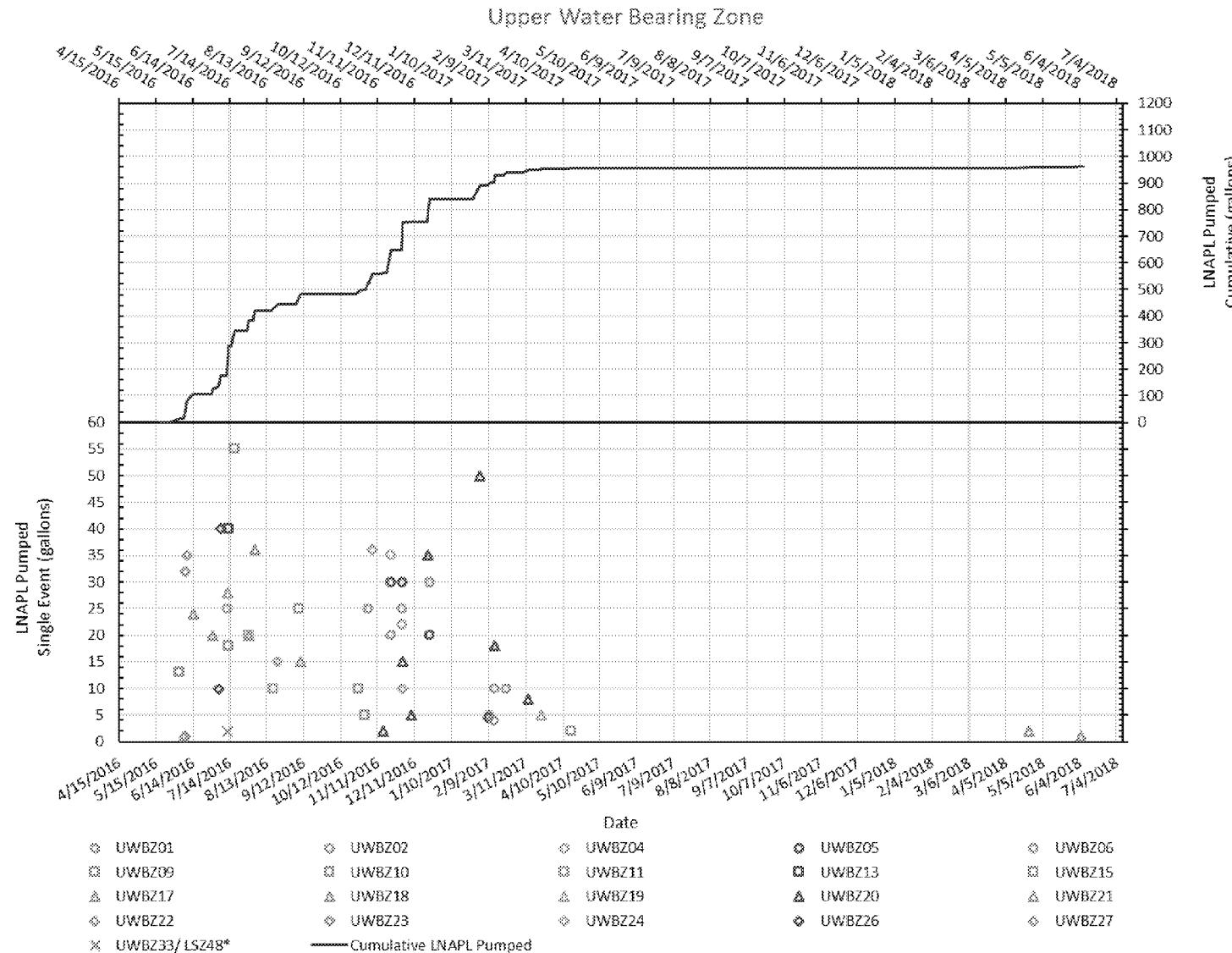
Upper Water Bearing Zone

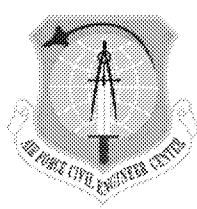




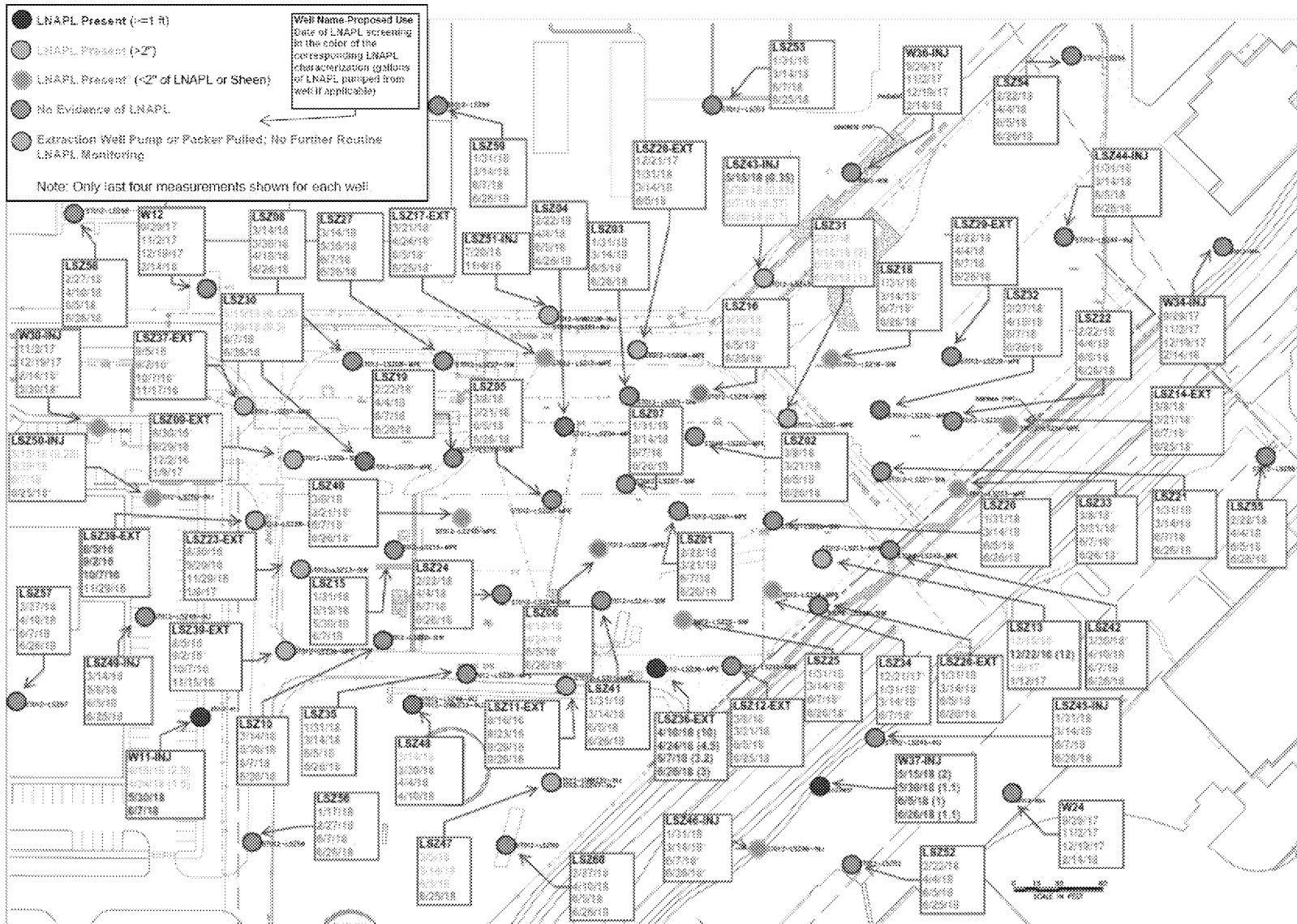
LNAPL Monitoring/Removal Status

Upper Water Bearing Zone





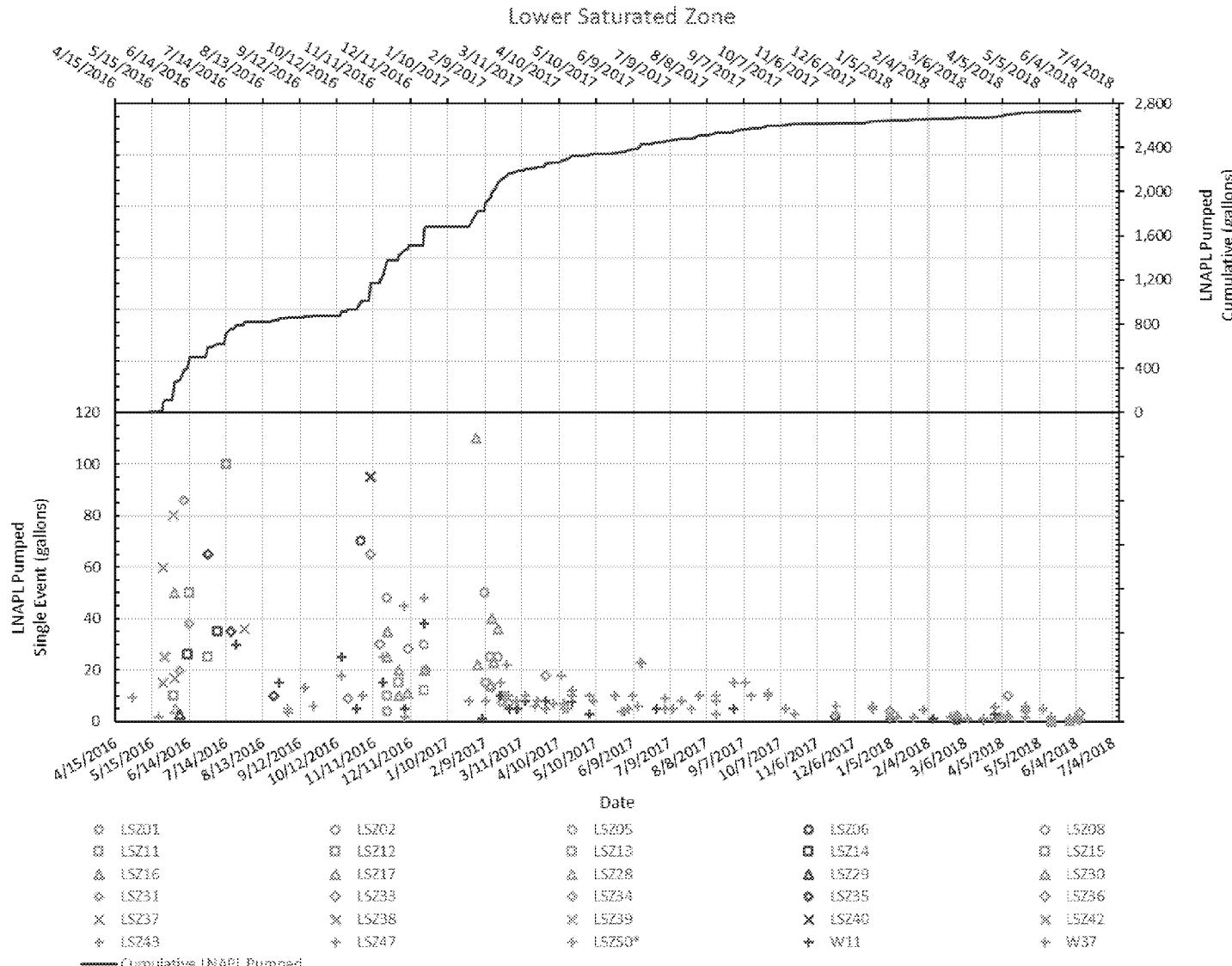
LNAPL Monitoring/Removal Status Lower Saturated Zone





LNAPL Monitoring/Removal Status

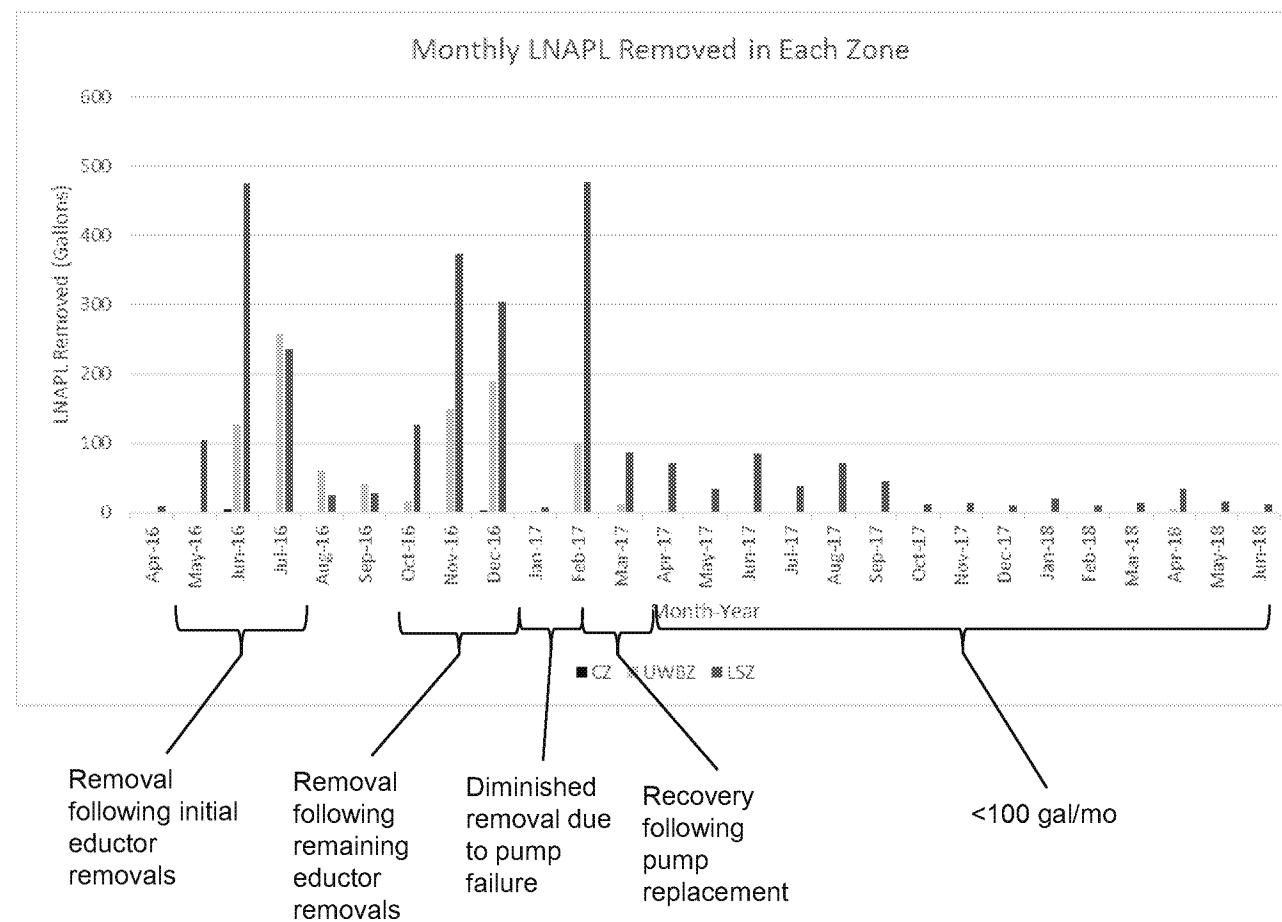
Lower Saturated Zone





ST012 LNAPL Monitoring/Removal Summary

- CZ – 7 gallons of LNAPL removed. None since Nov 2016
- UWBZ - 961 gallons of LNAPL removed. None removed since Jun update
- LSZ - 2,740* gallons of LNAPL removed. 6 gallons removed since Jun update (W37, LSZ30, LSZ31, LSZ36).





Informal Dispute Resolution

- **Informal dispute resolution between EPA and AF addressed the following:**
 - Final work plan submitted as Pilot Study Implementation Work Plan on 5 Apr 2018
 - Differences in data interpretation between AF and EPA would be resolved as Pilot Study proceeds based on actual site data
 - Phase 1 and Phase 2 additional characterization identified several areas where contamination may not be bounded. AF previously committed to address these areas with future borings/ wells.
 - Phase 1 pilot study implementation (injection) was to proceed following re-baseline sampling



Benzene Concentrations

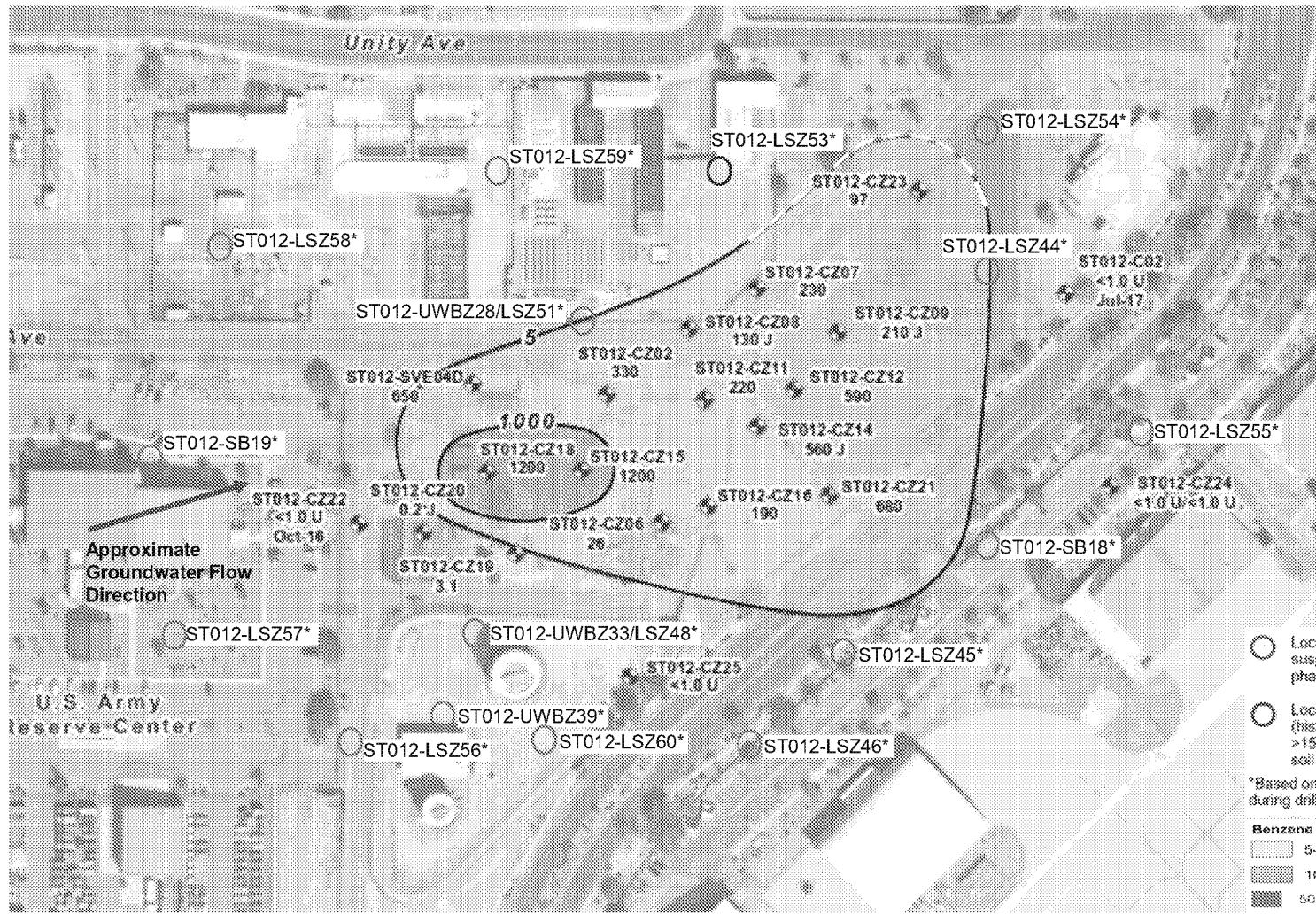


Benzene Results and Distribution

- Benzene interpretations from Jun call updated to consider data from before re-baseline sampling at locations not sampled during re-baseline event
- Interpretation using
 - Re-baseline data (Spring 2018 – date not listed on figures)
 - Most recent data for other wells (date of sample listed on figures)
 - Soil boring observations (not conclusive for groundwater but considered in shaping contours for areas of limited groundwater data)

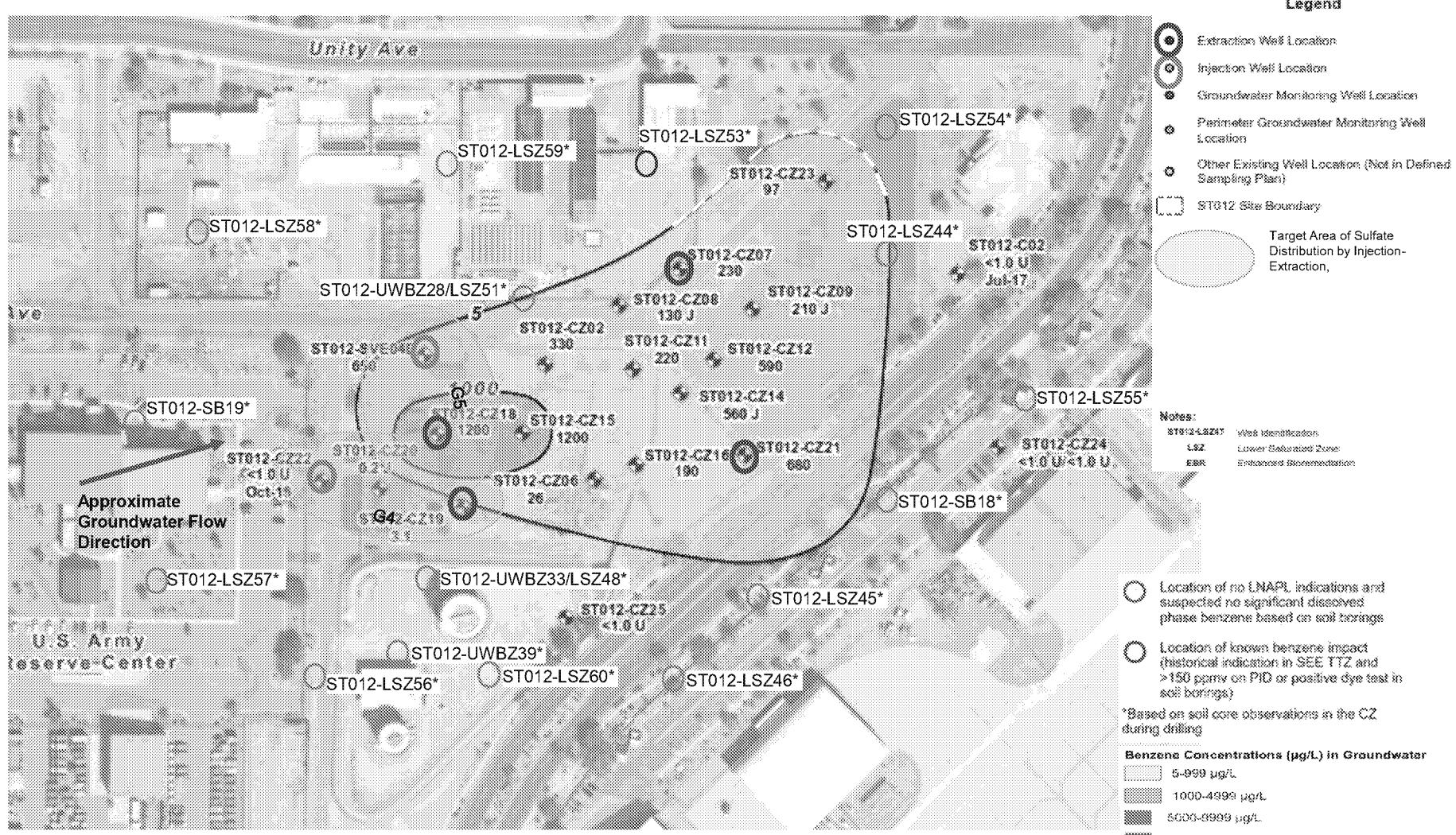


Site ST012 Most Recent Benzene Concentration Observations - CZ



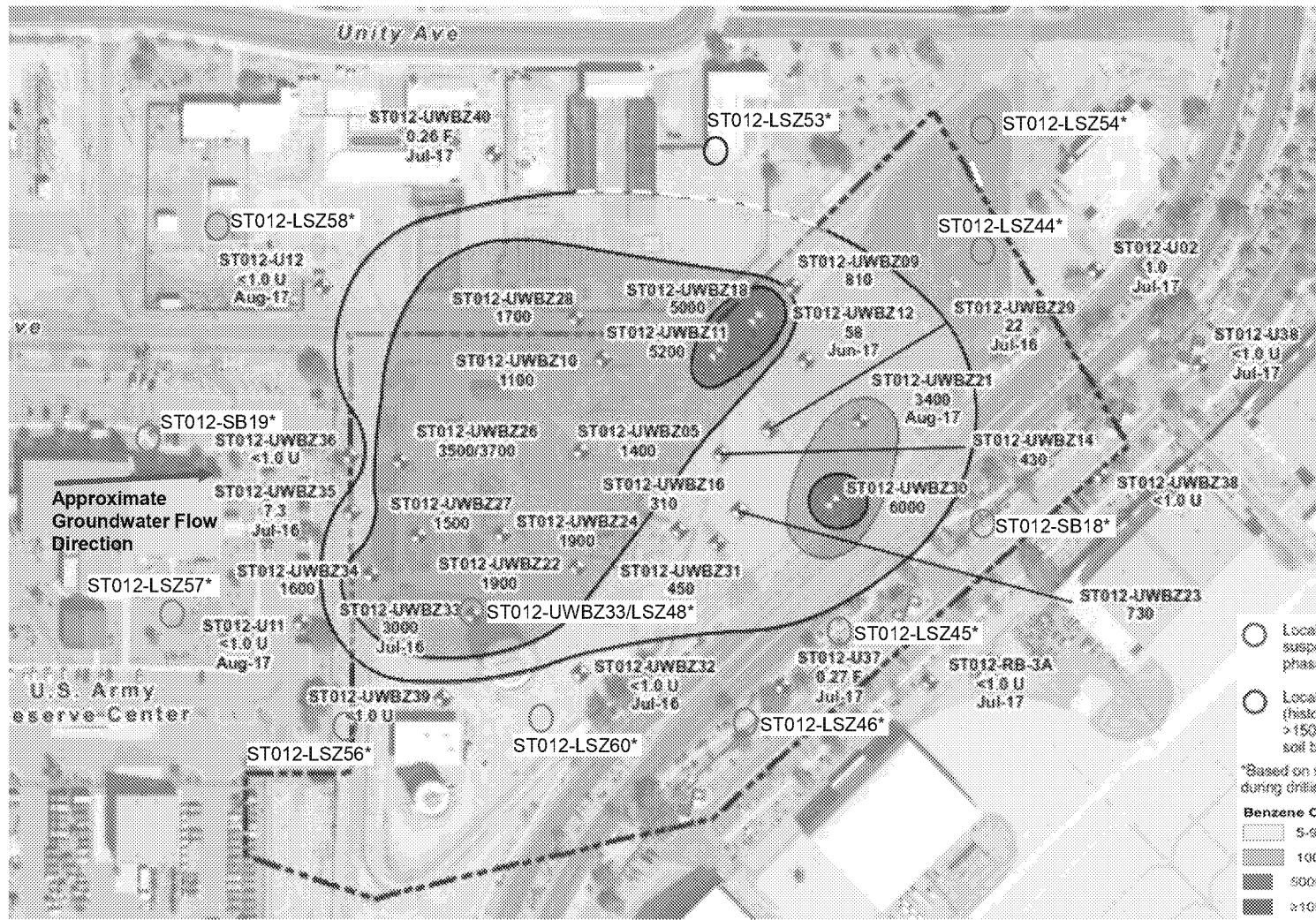


Site ST012 Inject Areas with Benzene - CZ



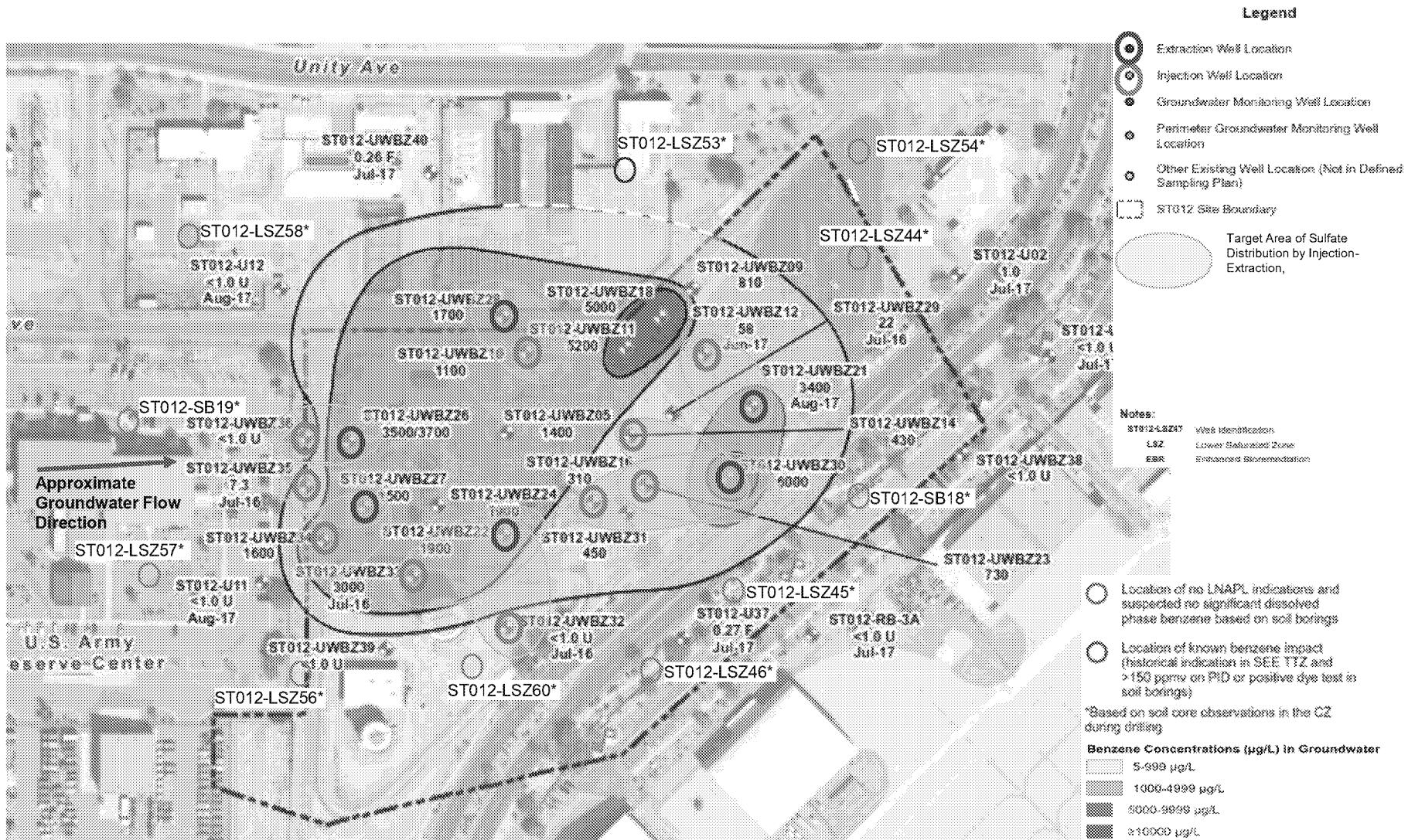


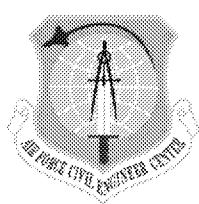
Site ST012 Most Recent Benzene Concentration Observations - UWBZ



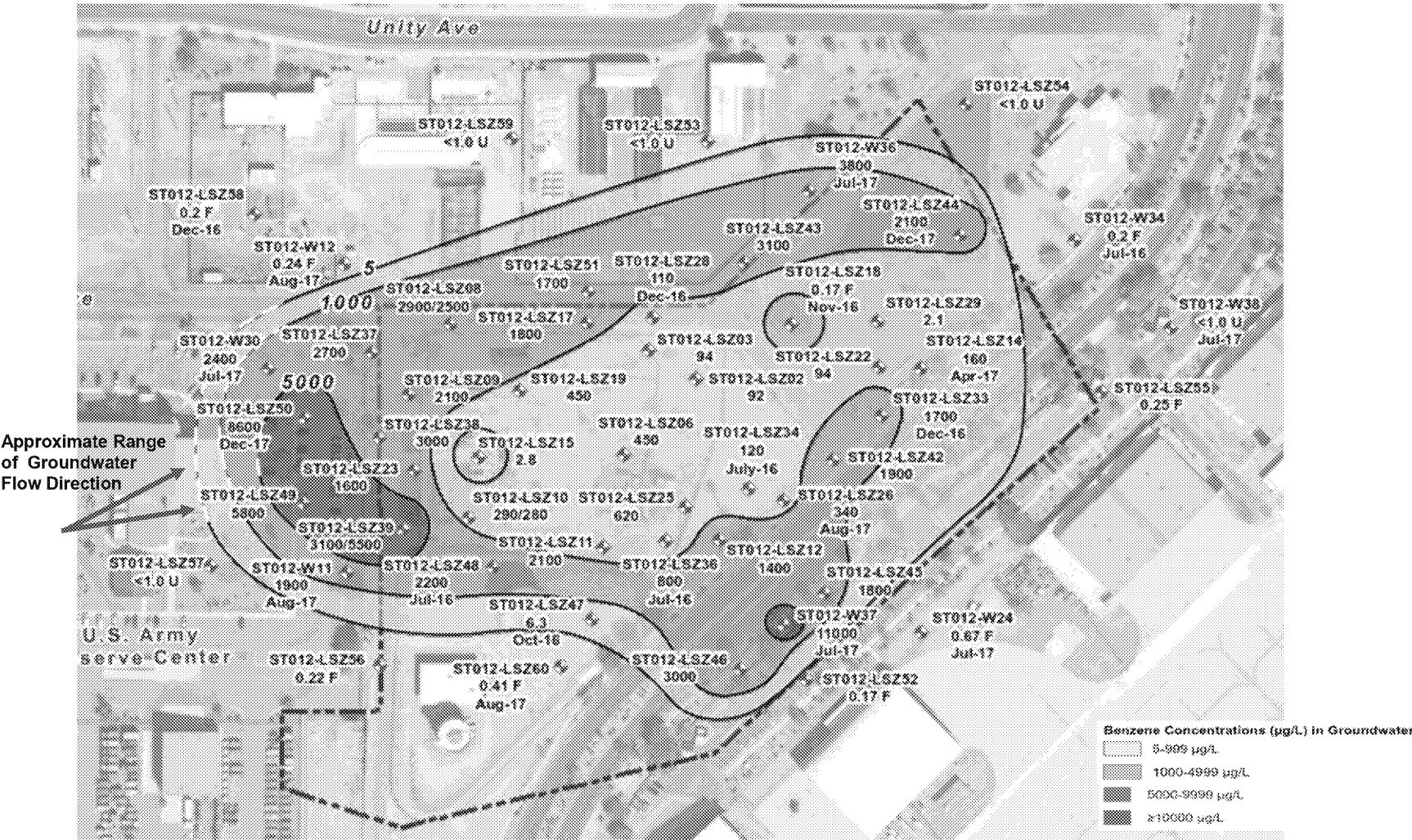


Site ST012 Injection Areas with Benzene - UWBZ





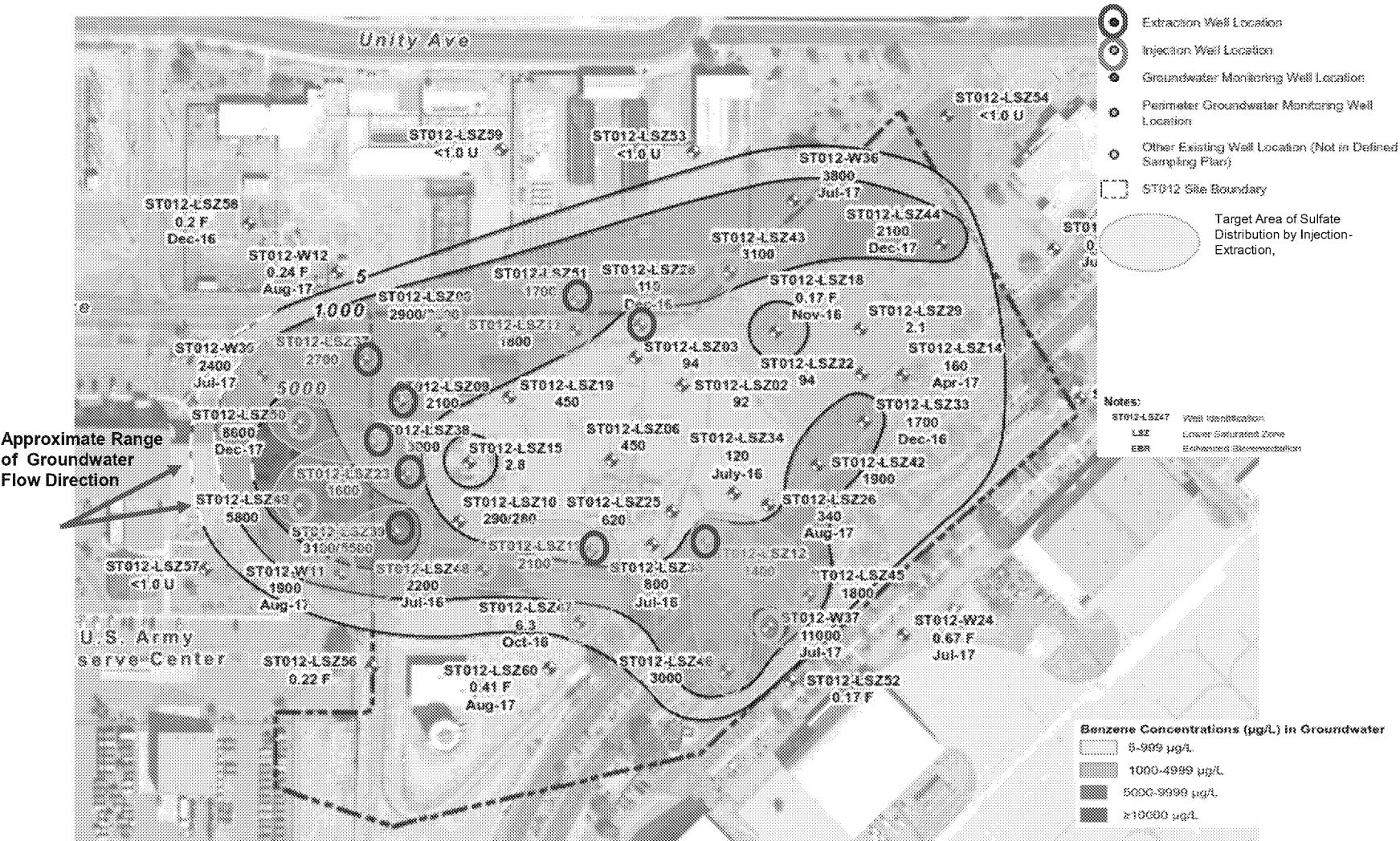
Site ST012 Most Recent Benzene Concentration Observations - LSZ





Site ST012 Injection Areas with Benzene - LSZ

Legend





Site ST012 Activities July

- Continued SVE operation
- Continued monthly CZ23 sampling
- Pilot Study Implementation
 - Pending resolution of containment/characterization concerns